

epoch; Mr. J. J. Hicks, various apparatus, including a standard thermometer without any error shown in the Kew table of corrections between 32° and 212° ; Dr. W. J. S. Lockyer, photographs of lightning and of the spectrum of lightning; Dr. H. R. Mill, rainfall maps; Mr. R. W. Munro, new pressure plate anemometer by Dines; Messrs. Newton and Co., altimeter; Prof. J. M. Pernter, new self-registering electrometer and anemometer, also hair hygrometer and photometer; Mr. A. Lawrence Rotch, instrument for determining the velocity of wind at sea, kite investigation exhibits, photographs of high-level stations and of the figures of the winds from the Horologium at Athens; Dr. R. H. Scott, F.R.S., Russian climatological atlas; Dr. W. N. Shaw, F.R.S., Galton's "Meteorographica" and other historical exhibits, lantern slides, apparatus and diagrams illustrating the motion of air in circular storms, and apparatus illustrating the circumstances of the formation of cloud in free air; Prof. F. T. Trouton, F.R.S., gravimetric recording hygrometer, and an electrical dew-point hygrometer; Mr. C. T. R. Wilson, F.R.S., experiments on ionisation; Commander Wilson-Barker, R.N.R., cloud studies—photographs; Dr. W. Mansergh Varley, for Mr. P. Y. Alexander, *ballons sondes* records; Mr. A. Lander, new sunshine recorder, anemometer, and thermograph.

It is difficult to particularise in a short notice the exhibits which deserved or those which received the greatest attention. Not the least interesting was the one representative of the connection of meteorology with botany, exhibited by Mr. Blackman, an apparatus which showed the rate at which water evaporated from the leaves of the branch of a tree. From the point of view of meteorology, probably the most important exhibits were the comparatively inconspicuous sheets of metal or paper on which were recorded the results of balloon or kite ascents by M. Teisserenc de Bort, Mr. Rotch, Mr. Dines, and Dr. Varley, one of the records exhibited by the last-named gentleman extending to the height of 70,000 feet. The opportunity of seeing the working of Mr. Aitken's dust counters, Mr. Wilson's experiments on the effect of the electric field upon condensation of water particles, with other noteworthy experiments, the collection of weather maps of all countries, of magnetic apparatus old and new, and of the diagrams bringing together the results of observations from all parts of the world, will probably remain among the most satisfactory recollections of the meeting in Southport. The local exhibits by Mr. Baxendell, of the remarkably well equipped Fernley Observatory, and his assistant, Mr. Halliwell, were admirable examples of the best kind of progress in meteorological instrument making, and a word ought to be said for Mr. Lander, of Canterbury, who exhibited some self-recording instruments of his own construction, among others a sunshine recorder which keeps the record of sunshine for a month on a half-plate sheet of photographic paper.

An interesting exhibit, which could not be confined to the four walls of a building, was a specimen of the mortars used in southern Europe for bombarding the clouds, as described in the columns of NATURE, vol. lxiv. p. 159. The apparatus was brought and exhibited by Prof. Pernter, being placed at his disposal by the makers for the demonstration of the remarkable vortex rings which are produced by the discharge of the mortar, which is provided with a large funnel-shaped attachment. The discharges were directed horizontally, and though the rings did not carry smoke enough, as a rule, to be easily followed by eye, some of them showed their structure and others could be heard hurtling along the promenade for a considerable distance.

Finally, mention should be made of the arrangement carried out in connection with the exhibition by the Meteorological Council for the preparation at Southport of a weather chart of north-west Europe with remarks and forecasts in the same manner as those of the daily weather report of the Meteorological Office. For this purpose the reports of observations received in London were sent on by telegraph to Southport, and there charted and dealt with; the evening information of which account has always to be taken in preparing morning forecasts was sent by post and charted in readiness for the arrival of the telegrams.

A special feature of the Southport edition was found in maps of the distribution of maximum and minimum

temperatures, sunshine and rainfall for the previous twenty-four hours, which replaced the three supplementary maps of the daily weather report.

The primary object of the arrangement was to enable the members of the British Association to examine for themselves the method adopted by the Meteorological Council for dealing with daily weather information, but it was also an experiment by which one can estimate the conditions necessary for carrying out a system of distributing telegraphic information to local centres to be there dealt with independently of, but in association with, a central office. At present in this country there is only one centre for the preparation of reports and forecasts, although the local conditions of the three kingdoms are very complex. The trial of the preparation of independent reports from the same data is therefore of more than temporary interest.

In the chapter of accidents it came about that the Southport week exhibited remarkably typical examples of British weather, including the rapidly travelling circular storm of September 10, with accompanying heavy rainfall, and the persistent anti-cyclone of the following week, with its autumnal mornings and atmospheric effects. Unfortunately all the types were cold, and the visitors from over sea were more impressed with the meteorological interest of the week's weather than with its geniality. The series of maps remains a very interesting group of specimens for weather study.

W. N. SHAW.

ARCHAEOLOGY OF THE COAST OF NORTH-WEST FLORIDA.¹

MR. CLARENCE B. MOORE has concluded his thorough archaeological survey of the coast-line of north-west Florida. Although this district had not previously been investigated, many mounds had been opened by treasure seekers and curiosity hunters, and thus valuable data have been lost to the students of American archaeology. This irresponsible exploitation of mounds for spoil has caused great loss to science in America, but the loss in the Old World has been infinitely greater, and too often this ignorant digging has been carried on under the auspices of "learned" institutions.

By far the greater portion of Mr. Moore's finds consists of pottery which has been added to the noble collection that this enthusiastic archaeologist has given to the museum of the Academy of Natural Sciences at Philadelphia. Indeed, there are in the various museums of the United States enormous collections of pre-Columbian and more recent pottery, comparatively little of which has been studied or published. It is to be hoped that ere long one of our American colleagues will give us a monograph on American ceramics as a whole; a work on this subject is much needed at the present day, and it could not fail to be of very great interest.

There is so much variety in the vessels so numerous and beautifully figured by Mr. Moore that it is difficult to give an idea of the pottery of the district investigated. Many vessels are composed of several cups or receptacles, most are of irregular form and are often provided with animals' heads, a few are perforated, and some are in the form of human effigies; a unique vessel has the form of an inverted truncated pyramid, on one side of which a human figure peering over the edge is modelled in relief. The majority of the vessels are decorated in various ways, usually either by incised lines or by devices or patterns in low relief, many of which look as if they had been produced with a stamp; one simple cylindrical vessel is ornamented with an incised design representing two human hands, but most of the designs and patterns have no obvious significance.

A good many human crania have been found, and these exhibit great antero-posterior flattening, while in some a concave depression gives evidence of early constriction by a band. Captain Bernard Romans, who was familiar with

¹ "Certain Aboriginal Remains of the North-west Florida Coast." Part ii. By Clarence B. Moore. (*Journal of the Academy of Natural Sciences of Philadelphia*, 2nd series, vol. xii., part ii., 1902.)

this part of Florida, writing in the latter part of the eighteenth century, tells us that in his time the Choctaws bound bags of sand to the heads of male children; but skulls of females exhibit the same artificial deformation.

The region investigated by Mr. Moore shows in an interesting manner the influence of other districts. The pottery of north-west Florida is, on the whole, much superior to that of the peninsula, and the author is inclined to believe that the best ware found its way into the latter region through barter, and the comparative rarity of the imported ware may account for the infrequent occurrence of earthenware vessels in the burial mounds of the coast of the peninsula.

In the first part of the report (*Journal Acad. Nat. Sci., Phila., xi., 1901, p. 439*) Mr. Moore noted a mortuary custom prevailing in peninsular Florida, which consisted of knocking a hole in the base of a vessel, presumably to "kill" the pot, that its soul might accompany that of the dead man. The flimsy and "freak" pottery sometimes found in the peninsula, and numerous in the north-west, was made expressly for interment with the dead, and in the base of each vessel a hole had been made previous to the baking of the clay. A new feature in "freak" ware was encountered about St. Andrew's Bay; these vessels



FIG. 1.—Perforated mortuary vessel from St. Andrew's Bay, Florida.

were life-forms, usually, but differed from other life-forms of the same district in that they were inferior to them as to ware and workmanship, and that they had various perforations, made previous to baking, in the body of the vessel as well as the customary one in the base.

Mr. Moore also obtained evidence which suggests that the flesh was removed from the bones of the corpses and burnt; the mass of carbonaceous matter was always found on the eastern side of the mounds. Urn burial was largely in vogue in Alabama and Georgia; it extended into Florida, but practically is not met with further east than St. Andrew's. Inhumation was almost universally practised in Florida; true cremation has not been met with in the peninsula, but it was occasionally practised on the mainland, or north-western portion. These observations confirm the statement of Cabeça de Vaca, who spent some years among the aborigines of the north-west Florida coast; he says that persons there in general were buried, but that doctors were cremated. Mr. Moore is to be warmly congratulated on having brought his labours to so successful a termination, and the Philadelphia Academy of Natural Sciences is fortunate in possessing so liberal a benefactor. It is to be hoped that these instructive collections will be suitably and worthily displayed.

A. C. H.

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UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

CAMBRIDGE.—In accordance with general expectation, Dr. J. N. Langley, F.R.S., has been elected professor of physiology in succession to Sir Michael Foster, K.C.B., F.R.S.

Dr. A. Hill has been reappointed university lecturer in advanced human anatomy. Dr. A. C. Ingle has been appointed university lecturer in midwifery. Mr. J. de Gruchy Gaudin has been appointed a governor of the University College of North Wales, Bangor.

An Allen studentship of the value of 250*l.* for one year, for research in any branch of study connected with medicine, mathematics, physics and chemistry, biology and geology, or moral science, will be vacant next term. Candidates must be graduates of the university and not more than twenty-eight years of age.

Mr. Newall will lecture next week on Hale's recent investigations of the sun's surface, with illustrations obtained from Prof. Hale, of the Yerkes Observatory.

The State Medicine Syndicate reports that during the present year eighty-eight candidates have presented themselves for examination in sanitary science. Forty-one were successful in obtaining the university diploma in public health.

Sir Walter Gilbey has been appointed an additional member of the board of agricultural studies.

A syndicate is to be appointed "to consider what changes, if any, are desirable in the studies, teaching, and examinations of the university, to confer with any persons or bodies, and to submit a report or reports to the Senate before the end of the Easter term, 1904." The members proposed are the Vice-Chancellor, Sir R. C. Jebb, Dr. A. W. Ward, Mr. Austen Leigh, Mr. W. Chawner, Dr. D. MacAlister, Prof. A. R. Forsyth, Dr. J. N. Keynes, Prof. J. J. Thomson, Mr. R. S. Parry, Mr. J. W. Cartmell, Mr. W. Durnford, and Mr. W. Bateson. It is understood that one of the first questions to be considered will be that of "compulsory Greek."

THE War Office has sanctioned the provision of a guard of honour on the occasion of the visit of Lord Kelvin to Cardiff to receive an honorary degree from the University of Wales.

THE Commissioners for the Exhibition of 1851 have offered a nomination for an 1851 science exhibition to the South African College, Cape Town, for 1904, and hope to repeat the offer in 1906 and subsequent alternate years.

DR. C. S. MYERS has been elected to the lectureship on experimental psychology at King's College, London, rendered vacant by the resignation of Dr. W. G. Smith, who has been appointed to a similar post at the University of Liverpool.

THE Prince and Princess of Wales will visit the Battersea Polytechnic on Wednesday, February 24, for the annual distribution of prizes to evening students and the formal opening of a new block of buildings in the women's department.

At the half-yearly meeting of the governors of the University College of North Wales, held on October 28, the chairman stated that in all probability 5000*l.* would be received from the trustees of the late Dr. Evan Thomas, and that it had been decided to allot that sum to the new building fund.

A NEW Royal college at Posen was opened on November 4 by Herr Studt, the German Minister of Education. Herr Studt, in declaring the building open, referred to the Emperor's deep interest in the education of eastern Germany, to which the new college largely owed its existence. The new foundation was to be a university in the true sense, he continued, for it would serve the needs of all the population, including even that section of the Poles which still held aloof.

THE civic inauguration of the University of Liverpool took place on November 7 in St. George's Hall, Liverpool. The Lord Mayor of Liverpool presented the charter of the university to the Chancellor, remarking that no one had